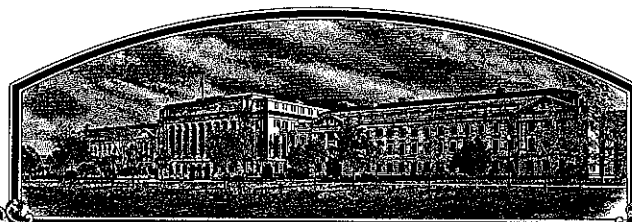


No.



9200151

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Northrup King Co.

Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS OF THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Coker 9105'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this *31st* day of August in the year of our Lord one thousand nine hundred and ninety-four.

Attest:

Kenneth A. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Mike Egan
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) Northrup King Co.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. C 86-26	3. VARIETY NAME Coker 9105
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) P.O. Box 959 Minneapolis, MN 55440		5. PHONE (include area code) (612) 593-7333	FOR OFFICIAL USE ONLY PVPO NUMBER 9200151 FILING Date April 13, 1992 Time <input type="checkbox"/> A.M. <input type="checkbox"/> P.M. FEE Filing and Examination Fee: \$2150. Date Apr. 13, 1992 RECEIVED Certificate Fee: \$250.00 Date August 2, 1994
6. GENUS AND SPECIES NAME Triticum aestivum L.	7. FAMILY NAME (Botanical) Gramineae		
8. CROP KIND NAME (Common Name) Soft red winter wheat	9. DATE OF DETERMINATION September, 1987		
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware		12. DATE OF INCORPORATION 1976	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS R. W. Romig John Thorne AAA 28 Sept 1993 Northrup King Co. P.O. Box 959 Minneapolis, MN 55440 Washington IA 52353			
			(612) 593-7305

PHONE (include area code):

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)

- a. ☒ Exhibit A, Origin and Breeding History of the Variety.
- b. ☒ Exhibit B, Novelty Statement.
- c. ☒ Exhibit C, Objective Description of Variety.
- d. ☐ Exhibit D, Additional Description of Variety.
- e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.
- f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office _____
- g. ☐ Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.)
☒ YES (If "YES," answer items 16 and 17 below) ☐ NO (If "NO," skip to item 18 below)

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☒ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☒ FOUNDATION ☒ REGISTERED ☒ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ YES (If "YES," through ☐ Plant Variety Protection Act ☐ Patent Act. Give date: _____)
☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES?
☒ YES (If "YES," give names of countries and dates) **U.S.A., fall of 1991**
☐ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.
 The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.
 Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

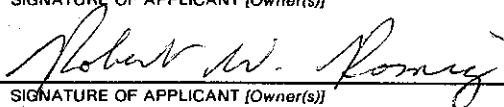
SIGNATURE OF APPLICANT [Owner(s)] 	CAPACITY OR TITLE Vice President Research	DATE APRIL 9, 1992
SIGNATURE OF APPLICANT [Owner(s)]	CAPACITY OR TITLE	DATE

EXHIBIT A**Origin and Breeding History**

The soft, red winter wheat (*Triticum aestivum*) variety Coker 9105 is derived from the cross Coker 65-20*4/Wichita 7-Transfer//Blueboy sel/3/Coker 68-15*3//Chancellor*8/CI13836 made in the spring of 1976 at the Coker research facility in Hartsville, SC. The breeding history follows:

<u>Season</u>	<u>Generation</u>	<u>Activity</u>
1976	Cross made	Cross identified as X182
1976-77	F1	Seed bulked
1977-78	F2	Seed bulked
1978-79	F3	Seed bulked
1979-80	F4	Heads selected
1980-81	F5	Head row #19645 selected
1981-82	F6	Tested as line #82C175 and heads re-selected
1982-83	F7	Head row #216 selected
1983-84	F8	Line #84 C15 tested
1984-85	F9	Line #85A-194 tested
1985-86	F10	Advanced testing as 86-25
1986-87	F11	Advanced testing continued
1987-88	F12	Elite testing and seed increase made at Bay, AR
1988-89	F13	Elite testing continued and small increase by Northrup King Production Dept.
1989-90	F14	Elite testing and large increase produced by Northrup King
1990-91	F15	Further increase by Production Dept.
Planned	F16	Seed production for certification by
1991-92		TGN growers

Coker 9105 has been widely tested in NK wheat research trials for the past four seasons. It was also evaluated in public trials in states along the Gulf in 1989-90. Based on performance in these tests, it has been uniform and stable.

Plants are relatively uniform in appearance but variants may occur that are taller, differ in maturity, and rarely may be awned. Frequency of variants should not exceed 1/1,000.

EXHIBIT B**Novelty Statement**

Variety Coker 9105 most closely resembles the variety Coker 9024. Variety Coker 9105 differs from variety Coker 9024 in phenol reaction, winter hardiness, and spike color. These differences are presented below.

Trait	Coker 9105	Coker 9024	LSD .05
Phenol reaction	Black-brown	Light brown	-
Winter hardiness ¹⁾	3.8	7.6	1.1
Spike color	Green	Blue-green	-

¹⁾ Scale of 1-10 with 10 being the most winterhardy, Northrup King Co. data, 4 locations 1989.

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN AND SEED DIVISION
BELTSVILLE, MARYLAND 20785

FORM APPROVED: OMS NO. 0581-0085

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

Northrup King Co.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

P.O. Box 959

Minneapolis, MN 55440

FOR OFFICIAL USE ONLY

PVPO NUMBER

9200151

VARIETY NAME OR TEMPORARY
DESIGNATION

Coker 9105

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. or) when number is either 99 or less or 9 or less.

1. KIND:

1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

1 = SPRING 2 = WINTER 3 = OTHER (Specify) 1 = SOFT 3 = OTHER (Specify)
2 = HARD

1 = WHITE 2 = RED 3 = OTHER (Specify)

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

FIRST FLOWERING LAST FLOWERING

4. MATURITY (50% Flowering):

NO. OF DAYS EARLIER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS 7 = Caldwell
 NO. OF DAYS LATER THAN 4 = LEMHI 5 = NUGAINES 6 = LEEDS 8 = Coker 916

5. PLANT HEIGHT (From soil level to top of head):

CM. HIGH
 CM. TALLER THAN
 CM. SHORTER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS 7 = Caldwell
4 = LEMHI 5 = NUGAINES 6 = LEEDS 8 = P-2555

6. PLANT COLOR AT BOOTING (See reverse):

1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTER COLOR:

1 = YELLOW 2 = PURPLE

8. STEM:

Anthocyanin: 1 = ABSENT 2 = PRESENT Waxy bloom: 1 = ABSENT 2 = PRESENT
 Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT Internodes: 1 = HOLLOW 2 = SOLID
 NO. OF NODES (Originating from node above ground) CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

Anthocyanin: 1 = ABSENT 2 = PRESENT Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (Specify) Flag leaf: 1 = NOT TWISTED 2 = TWISTED
 Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
 MM. LEAF WIDTH (First leaf below flag leaf) CM. LEAF LENGTH (First leaf below flag leaf):

11. HEAD:

☐ 3 Density: 1 = LAX 2 = DENSE 3 = Medium ☐ 1 Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE
4 = OTHER (Specify) _____

☐ 2 Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

☐ 7 Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify): light tan

☐ 0 ☐ 7 CM. LENGTH ☐ 1 ☐ 2 MM. WIDTH

12. GLUMES AT MATURITY:

☐ 2 Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.) ☐ 2 Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

☐ 2 Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE ☐ 2 Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

☐ 1 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

☐ 1 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

☐ 2 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

☐ 3 Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL ☐ 1 Check: 1 = ROUNDED 2 = ANGULAR

☐ 1 Brush: 1 = SHORT 2 = MEDIUM 3 = LONG ☐ 1 Brush: 1 = NOT COLLARED 2 = COLLARED

☐ 5 Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

☐ 5 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) light brown

☐ 0 ☐ 6 MM. LENGTH ☐ 0 ☐ 3 MM. WIDTH ☐ 3 ☐ 0 GM. PER 1000 SEEDS

17. SEED CREASE:

☐ 2 Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI' ☐ 2 Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☐ 2 STEM RUST (Races) ☐ 2 LEAF RUST (Races) ☐ 1 STRIPE RUST (Races) ☐ 0 LOOSE SMUT

☐ 2 POWDERY MILDEW (race dependent) ☐ 0 BUNT ☐ OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☐ 0 SAWFLY ☐ 0 APHID (Bydv.) ☐ 0 GREEN BUG ☐ 0 CEREAL LEAF BEETLE

☐ OTHER (Specify) _____ HESSIAN FLY RACES: ☐ GP ☐ A ☐ B ☐ C ☐ D ☐ 1 E ☐ F ☐ G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

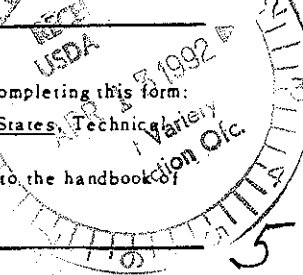
CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Coker 9227	Seed size	Saluda
Leaf size	Coker 9323	Seed shape	Coker 833
Leaf color	Hancock	Coleoptile elongation	Coker 983
Leaf carriage	Hancock	Seedling pigmentation	Coker 983

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.



2. Factors of Adaptation

A. Reaction to Major Diseases:

<u>Disease</u>	<u>Reaction*</u>
Stem rust	Resistant
Leaf rust	Resistant
Stripe rust	Susceptible
Powdery mildew	Resistant
<u>Septoria tritici</u>	Susceptible
<u>Septoria nodorum</u>	Moderately resistant
Soil borne virus complex	Moderately susceptible

*to races of pathogen prevalent in the field during the period 1986 to 1991 in the region of LA, AR, MS, and MO.

C. Milling and Baking Quality Evaluation.

Quality Parameter	----- Coker 9105/yr -----				----- Standard/yr*-----			
	1987	1988	1989	1990	1987	1988	1989	1990
Milling Quality	97.0	102.9	94.5	97.3	100	100	100	100
Micro T.W. (kg/hd)	76.2	77.7	77.7	77.3	79.9	75.2	77.0	77.4
Softness Equivalent	55.9	56.8	57.9	56.9	67.0	56.7	58.9	53.5
Flour yield %	72.7	72.3	73.5	75.8	68.6	71.7	74.9	77.2
Ash	.33	.37			.31	.36		
Break flour yield	31.2	31.9			40.6	31.9		
Ext.	74.9	74.5			71.2	74.0		
E.S.I.	12.7	13.2			17.9	13.9		
Baking Quality	93.3	100.7	90.7	105.3	100	100	100	100
Flour protein %	10.7	8.6	9.95	9.16	9.0	8.1	9.23	10.78
Micro AWRL	49.7	51.4	51.9	53.5	59.9	53.5	51.6	52.7
Cookie diameter	17.4	17.7	17.72	17.4	17.3	17.7	17.87	17.0
Top grain score	2	3	2	1	1	3	3	1

*Standard was Florida 302 in 1988, 1989, and 1990; McNair 1003 in 1987.

D. Winter Hardiness

<u>Region</u>
Excellent
Fair
Poor
Gulf Coast
Mid-South
Corn Belt

Best adapted south of I-20.

Vernalization - Requires 3 to 4 weeks of cool temperatures.

EXHIBIT E**Statement of the Basis of Applicant's Ownership**

Wheat variety Coker 9105 was developed by the Northrup King Co. cereals breeding staff from germplasm sources cited in Exhibit A of this application. Northrup King Co. believes that the variety is novel as defined in the Plant Variety Protection Act and, therefore, that Northrup King Co. is the sole owner of the variety.